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Fax Transmission

To: Steve Sexton +
Jim Meeller
Company: HPS
Fax #:

Date: 3/10/99

From: Matt Taylor, ext. 222

No. pages: 4
(Including cover sheet)

Message:

Here is the marked-up cable
drawing + the time line from
Luke to Kelly + Fred

Thank a million for picking this
up so late + bringing us up to speed
so quickly!!!!

A handwritten signature, likely of Matt Taylor, consisting of stylized, overlapping letters.

FAX

DATE: DECEMBER 16, 1998

TO: MKS-SANTA CLARA

ATTN: MATT TAYLOR

FROM: DICK JACOBS

REF: LOADLOCK TRANSDUCER

=====

HERE IS THE INFORMATION YOU REQUESTED FROM LUKE.

REGARDS, DICK

CPD Work Breakdown Structure														
ID	Task Name	Dur	Start	Finish	1Q99			2Q99			3Q99			
					Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
1	1.0 CONCEPT PHASE	19 days	Mon 11/2/98	Mon 11/30/98										
2	1.1 Complete New Product Concept Identification Form (NPCIF)	3 days	Mon 11/16/98	Wed 11/18/98										
3	1.2 CONCEPT IDENTIFICATION COMPLETED	0 days	Wed 11/18/98	Wed 11/18/98										
4	1.3 Gather Business-Product Description - Risk & Resource Requirement Info	3 wks	Mon 11/2/98	Fri 11/20/98										
5	1.4 Prepare Definition Proposal Document	3 days	Mon 11/23/98	Wed 11/25/98										
6	1.5 DEFINITION PROPOSAL REVIEW	1 day	Mon 11/30/98	Mon 11/30/98										
7	1.6 Concept Approved	0 days	Mon 11/30/98	Mon 11/30/98										
8	2.0 DEFINITION PHASE	67 days	Thu 11/5/98	Wed 2/17/99										
9	2.1 Establish Design Record Book	3 days	Tue 12/1/98	Thu 12/3/98										
10	2.2 Gather Customer Requirements	6 wks	Thu 11/5/98	Fri 12/18/98										
11	2.3 Customer Requirements Completed	0 days	Fri 12/18/98	Fri 12/18/98										

Project: Loadlock Gauge Developme Date: 11/23/98 Filr: sch9811a.mpp	Task	Summary	Rolled Up Progress
	Split	Rolled Up Task	External Tasks
	Progress	Rolled Up Split	Project Summary
	Milestone	Rolled Up Milestone	

CPD Work Breakdown Structure

ID	Task Name	Dur	Start	Finish	1Q99			2Q99			3Q99								
					Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug					
24	3.12 Test the concept and/or test pieces	2 wks	Thu 2/18/99	Wed 3/3/99															
25	3.13 Document the concept test results	2 days	Thu 3/4/99	Fri 3/5/99															
26	3.14/3.15 DESIGN REVIEW	1 day	Mon 3/8/99	Mon 3/8/99															
27	3.17 Design the PC Boards (using CAD tools)	4 wks	Tue 3/9/99	Mon 4/5/99															
28	3.18 Design the Mechanicals (using CAD tools)	4 wks	Tue 3/9/99	Mon 4/5/99															
29	3.20 Design the Packaging (using CAD tools)	2 wks	Tue 3/23/99	Mon 4/5/99															
30	3.21 Create the Prototype Test Plan	3 days	Tue 3/9/99	Thu 3/11/99															
31	3.24 Perform FMEA analysis	1 wk	Tue 4/6/99	Mon 4/12/99															
32	3.25 Generate FMEA report	2 days	Tue 4/13/99	Wed 4/14/99															
33	3.26 Build and Test the Prototypes	5 wks	Tue 4/6/99	Mon 5/10/99															
34	3.28 Document the Prototype Test Results	3 days	Tue 5/11/99	Thu 5/13/99															
35	3.29 CRITICAL FUNCTION VERIFIED, PROTOTYPE BUILT AND TESTED	0 days	Thu 5/13/99	Thu 5/13/99															

Project: Leadlock Gauge Development

Date: 11/23/98

File: sch9811a.mpp

Task

Split

Progress

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Summary

Rolled Up Task

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Rolled Up Milestone

Rolled Up Progress

External Tasks

Project Summary

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MKS CONFIDENTIAL

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	Task	Summary	Summary	Rolled Up Progress
	Split	Rolled Up Task	Rolled Up Task	External Tasks
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CPD Work Breakdown Structure

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Task

Split

Progress

Milestone

Summary

Rolled Up Task

Rolled Up Split

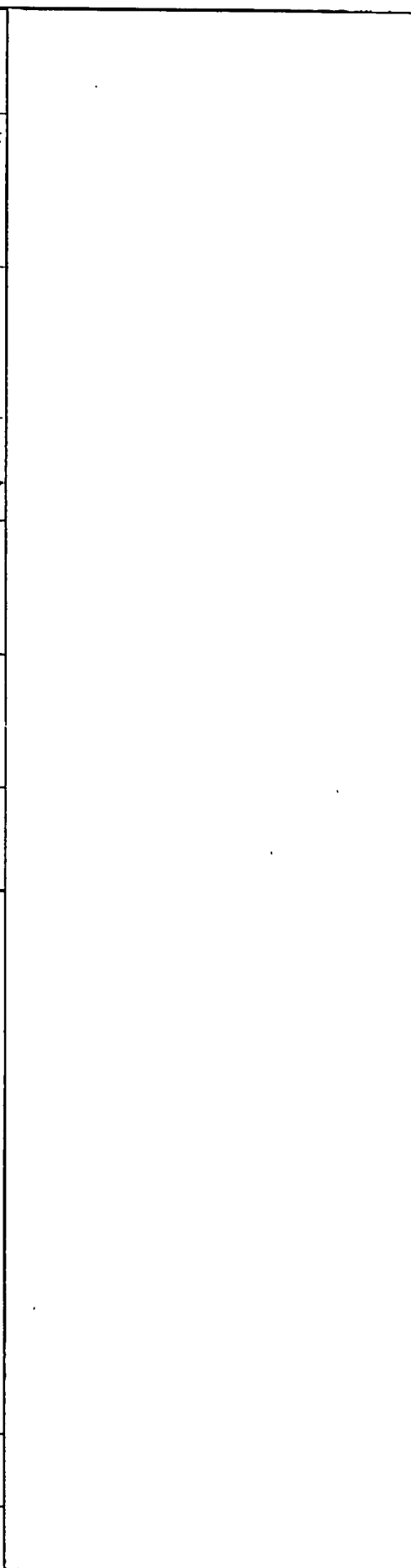
Rolled Up Milestone

Rolled Up Progress

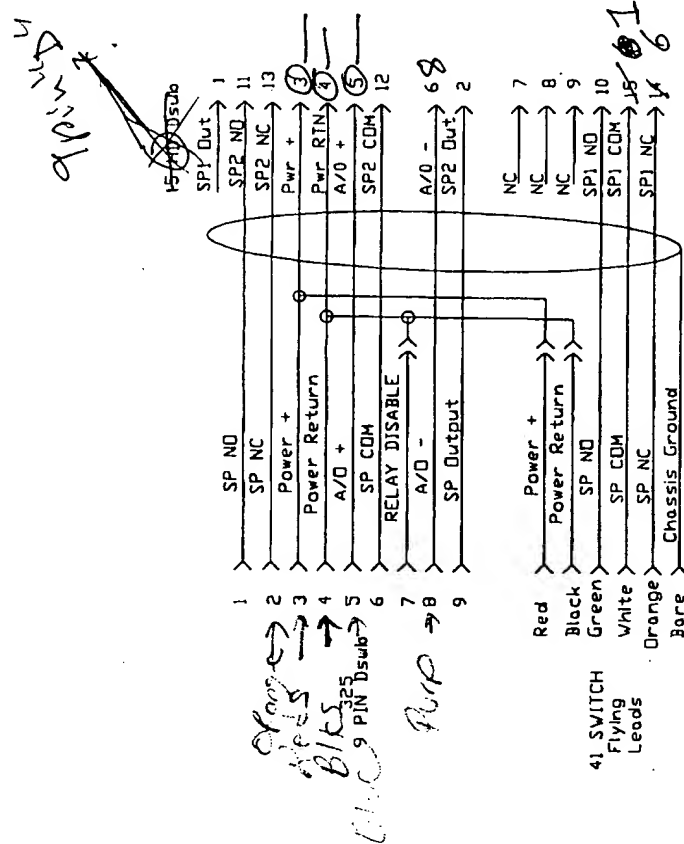
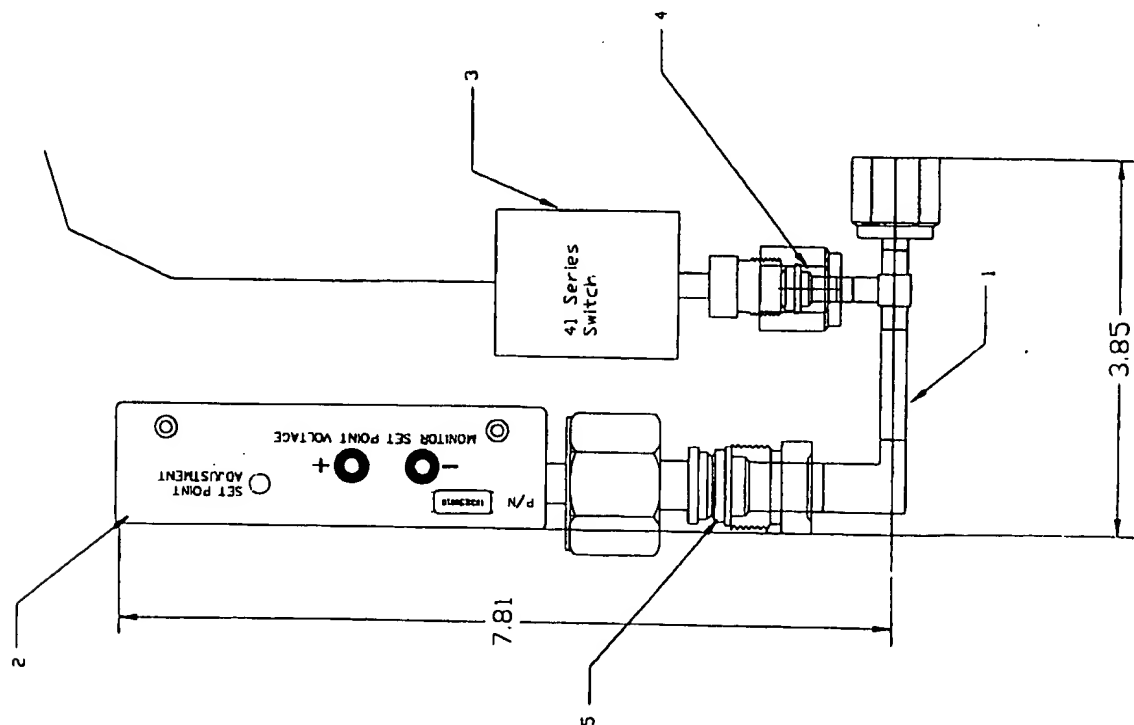
External Tasks

Project Summary

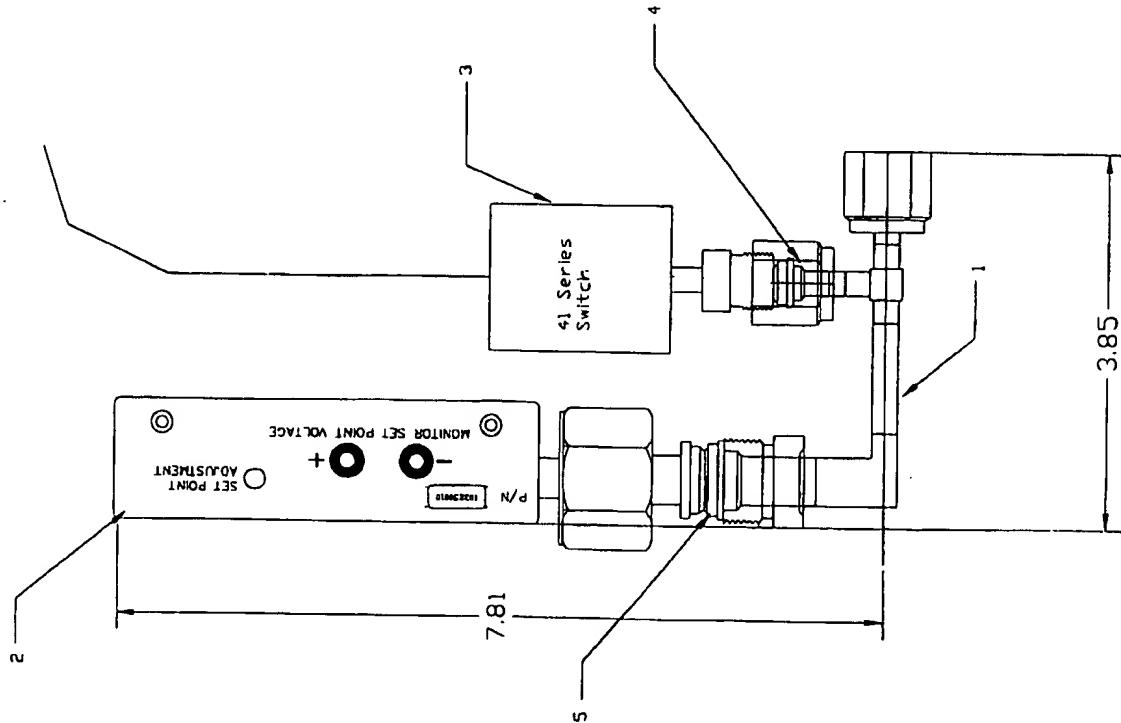
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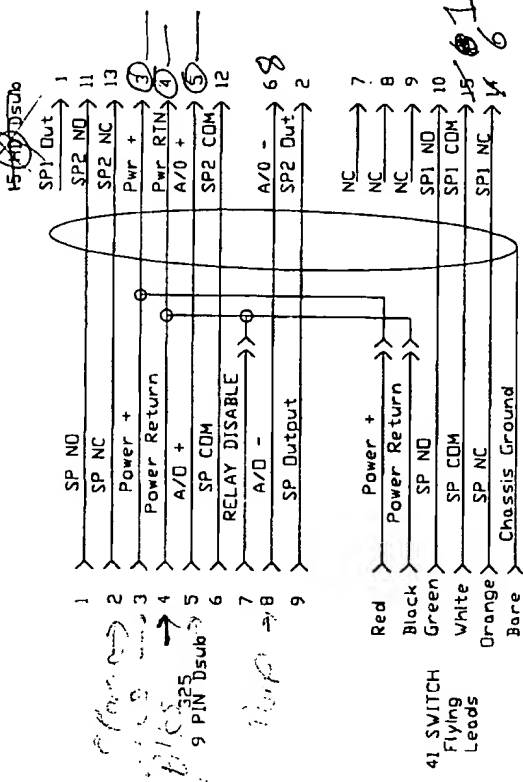
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0190-36521



Hand
9 pin



ITEM	QTY	U/M	DESCRIPTION	DOC	DRAWING NUMBER
5	1	EA	GASKET, CU, BVCR	MS	100005876
4	1	EA	GASKET, CU, 4VCR	MS	100006438
3	1	EA	ATM SWITCH, 41A, 110CA1BF003	PUR	41A110CA1BF003
2	1	EA	325.15V, BVCR, SHORT	DVG	103250012
1	1	EA	MAN, PIRANI/ATM SWITCH	DVG	93-7585A
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TOLERANCES UNLESS OTHERWISE SPECIFIED				STAFFORD	NA
FRACTIONS .001" MIN				STAFFORD	NA
DECIMALS .001" MIN				ASSY, PIRANI/ATM SWITCH	
HOLE DIA .001" MIN				DRAWING NUMBER	
HOLE DIA .001" MIN				93-7585	
HOLE DIA .001" MIN				A	
HOLE DIA .001" MIN				SHEET 1 OF 1	
HOLE DIA .001" MIN				HPS Division of HPS Instruments, Inc.	

MASTER V vs P TABLE FOR HPS 325 SENSOR WITH NITROGEN

p, torr	V, Volts	p, torr	V, Volts	p, torr	V, Volts	p, torr	V, Volts	p, torr	V, Volts	p, torr	V, Volts
0.0010	0.22094	0.010	0.32604	0.10	0.80173	1.0	1.9935	10	2.9967	100	3.1931
0.0012	0.22385	0.012	0.34488	0.12	0.86840	1.2	2.1043	12	3.0328	120	3.1970
0.0014	0.22672	0.014	0.36269	0.14	0.92892	1.4	2.1961	14	3.0587	140	3.1999
0.0016	0.22955	0.016	0.37961	0.16	0.98448	1.6	2.2735	16	3.0780	160	3.2022
0.0018	0.23234	0.018	0.39576	0.18	1.03592	1.8	2.3399	18	3.0931	180	3.2040
0.0020	0.23509	0.020	0.41124	0.20	1.08386	2.0	2.3975	20	3.1052	200	3.2055
0.0025	0.24184	0.025	0.44741	0.25	1.19134	2.5	2.5130	25	3.1270	250	3.2084
0.0030	0.24839	0.030	0.48065	0.30	1.28496	3.0	2.6002	30	3.1415	300	3.2106
0.0035	0.25477	0.035	0.51153	0.35	1.36793	3.5	2.6684	35	3.1519	350	3.2124
0.0040	0.26098	0.040	0.54046	0.40	1.44240	4.0	2.7233	40	3.1597	400	3.2139
0.0045	0.26704	0.045	0.56775	0.45	1.50989	4.5	2.7685	45	3.1658	450	3.2152
0.0050	0.27296	0.050	0.59362	0.50	1.57153	5.0	2.8064	50	3.1707	500	3.2165
0.0055	0.27875	0.055	0.61825	0.55	1.62818	5.5	2.8386	55	3.1747	550	3.2176
0.0060	0.28441	0.060	0.64179	0.60	1.68052	6.0	2.8663	60	3.1781	600	3.2187
0.0065	0.28996	0.065	0.66437	0.65	1.72910	6.5	2.8903	65	3.1809	650	3.2197
0.0070	0.29540	0.070	0.68606	0.70	1.77436	7.0	2.9115	70	3.1834	700	3.2207
0.0075	0.30074	0.075	0.70696	0.75	1.81668	7.5	2.9302	75	3.1855	750	3.2217
0.0080	0.30597	0.080	0.72715	0.80	1.85636	8.0	2.9469	80	3.1874	800	3.2226
0.0085	0.31112	0.085	0.74666	0.85	1.89368	8.5	2.9619	85	3.1891	850	3.2235
0.0090	0.31618	0.090	0.76557	0.90	1.92885	9.0	2.9754	90	3.1906	900	3.2244
0.0095	0.32115	0.095	0.78391	0.95	1.96207	9.5	2.9876	95	3.1919	950	3.2253
0.0100	0.32604	0.100	0.80173	1.00	1.99352	10.0	2.9988	100	3.1931	1000	3.2261

X 3

for all values!

Hal Fortna 01/21/99 10:11 AM

To: Dick Jacobs/US/MKS@MKSINST
cc: Jack Gillespie/US/MKS@MKSINST
Subject: 41 Switch Hysteresis Resistor

Dick,

8ea.

I've determined that using MKS part number 065-0614 (124kohm) will give a hysteresis close to 10% for the 41 switch. This resistor replaces part number 065-0614 at location R17 on the circuit board. There are 751 of these in the stock room downstairs. This value will not give precisely a 10% hysteresis since there is a nonlinear relationship between the resistor value and actually flipping the relay. However, this should put us fairly close and if we need to fine tune it we can. Any data Santa Clara can gather will make the process quicker (i.e. output voltage when relay trips).

This is the basic information required to make the change. Do we need to provide a drawing to support this message?

Hal

ATT: Matt Taylor

Will have Cheryl Fed Ex PI you

8 resistors. Is this enough for now?

Dick

